

REMARKS

This responds to the Office Action mailed on June 2, 2006.

Claims 1-30 are pending in this application.

Preliminary Matters

Applicant respectfully requests the withdrawal of Final Rejection status, as claim 30 is examined on the merits for the first time in this Final Office Action. The Examiner may see from the Non-Final Office Action, mailed 12/15/2005, that claim 30 was neither listed as rejected, nor was claim 30 addressed in said Non-Final Office Action. Claim 30 is first examined on the merits and indicated as rejected in the Final Office Action Summary. A cursory comparison of the rejections under 35 USC § 102(b) as being anticipated by DiGiacomo (both Office Actions at pages 2) shows that claim 30 is rejected in the Final Office Action, but claim 30 was first examined on the merits, only in the Final Office Action. Withdrawal of Final Rejection status is proper and is therefore respectfully requested.

Clarification on Status of the Claims

Applicant would like to address an apparent error in the listing of the claims as pending in the summary page of the present Office Action.

The summary page of the Office Action lists claims 1-18 and 27-30 as pending. However, claims 1-30 are still pending, as only claims 31-33 have been canceled. Claims 19-26 were withdrawn but not canceled.

Reply to Response to Arguments

In the Response to Arguments, the Office Action fails to discuss the structural limitation of “a container barrier disposed on the heat spreader die side”. In the main body of the rejection, the Office calls out structure 55 as “the container barrier (55)” (Office Action at page 2). The main body of the rejection also calls out “a container barrier [as] (sidewalls of heat spreader)” (Office Action at page 2). But this represents two container barriers, not “a container barrier”.

When the Office takes the position of structure 55 as “*the* container barrier (55)” (Response to Arguments, page 6) it fails to include the limitation in claim 1 of a “first channel through the container barrier”.

When the Office takes the position of “sidewalls of heat spreader” as “*the* container barrier” (Office Action at page 2), it fails to include the limitation in claim 1 of “a container barrier disposed on the heat spreader die side”. This is because the “container barrier (sidewalls of heat spreader)” (Office Action at page 2) is disposed upon the structure 55. And it cannot be disposed upon itself.

When the Office takes the position that the container barrier is both the structure 55 as well as the sidewalls of the heat spreader, it fails to include the limitation of “a container barrier disposed on the heat spreader die side” because the container barrier cannot be disposed upon itself.

Further, where the Office takes the position that the “channel that holds the plug is formed into the chamber of the heat sink, that first channel is adjacent the heat spreader die side”, this assumes the heat spreader die side is *the* container barrier, which fails, however, to be the limitation in claim 1 of “a container barrier disposed on the heat spreader die side”.

Withdrawal of the rejections is respectfully requested.

§102 Rejection of the Claims

Claims 1, 6-12, 15-18, and 30 were rejected under 35 USC § 102(b) as being anticipated by DiGiacomo et al. (U.S. 6,085,831). The Applicant respectfully traverses this rejection and requests the Office to consider the following.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), M.P.E.P. §2131, 8th Ed., Rev. 4).

The Office Actions asserts that the sidewalls of heat spreader are the container barrier. Applicant respectfully disagrees. DiGiacomo teaches an “O-ring 40 can be placed on the periphery of chip 27 such that the horizontally extending flange 55 of the heat sink enclosure 53

rests on the O-ring 40." (DiGiacomo at column 5, lines 39-43. Emphasis added). DiGiacomo regards the structures 40 and 55 to be separate and distinct, such that flange 55 cannot be "a container barrier disposed on the heat spreader die side" (Claim 1). A structure 55 cannot be disposed upon itself.

Because DiGiacomo does not teach what is claimed in claim 1, DiGiacomo does not anticipate claim 1. Withdrawal of the rejection is respectfully requested. Applicant notes that claims 2-9 depend from claim 1 and are therefore also not anticipated by DiGiacomo. Withdrawal of the rejections is respectfully requested.

Regarding claim 10, it also has the limitations discussed above with respect to claim 1, that are not taught by DiGiacomo. Withdrawal of the rejection is respectfully requested. Applicant notes that claims 11-18 depend from claim 10 and are therefore also not anticipated by DiGiacomo. Withdrawal of the rejections is respectfully requested.

§103 Rejection of the Claims

Claim 4 was rejected under 35 USC § 103(a) as being unpatentable over DiGiacomo et al. and further in view of Studebaker (U.S. 6,448,637 B1).

Claims 27-29 were also rejected under 35 USC § 103(a) as being unpatentable over DiGiacomo et al. in view of Homer et al. (U.S. 2002/0154483 A1).

Allowable Subject Matter

Claims 2, 3, 5, 13 and 14 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

RESPONSE UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/607,782

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Title: LIQUID SOLDER THERMAL INTERFACE MATERIAL CONTAINED WITHIN A COLD-FORMED BARRIER AND METHODS OF
MAKING SAME

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Dkt: 884.860US1

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (801) 278-9171 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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